General

Guideline Title

Pixantrone monotherapy for treating multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma.

Bibliographic Source(s)

National Institute for Health and Care Excellence (NICE). Pixantrone monotherapy for treating multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma. London (UK): National Institute for Health and Care Excellence (NICE); 2014 Feb. 57 p. (Technology appraisal guidance; no. 306).

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

Pixantrone monotherapy is recommended as an option for treating adults with multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma only if:

- The person has previously been treated with rituximab and
- The person is receiving third- or fourth-line treatment and
- The manufacturer provides pixantrone with the discount agreed in the patient access scheme.

People currently receiving treatment initiated within the National Health Service (NHS) with pixantrone monotherapy that is not recommended for them by the National Institute for Health and Care Excellence (NICE) in this guidance should be able to continue treatment until they and their NHS clinician consider it appropriate to stop.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Multiply relapsed or refractory aggressive non-Hodgkin's Bâ€‘cell lymphoma

Guideline Category

Assessment of Therapeutic Effectiveness

Treatment

Clinical Specialty

Hematology

Oncology

Pathology

Intended Users

Advanced Practice Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To evaluate the clinical effectiveness and cost-effectiveness of pixantrone monotherapy for treating multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma

Target Population

Adults with multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma

Interventions and Practices Considered

Pixantrone monotherapy

Major Outcomes Considered

- Clinical effectiveness
  - Overall survival (OS)
  - Progression-free survival (PFS)
  - Response rate
  - Adverse effects of treatment
  - Health-related quality of life (HRQoL)
- Cost-effectiveness

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Searches of Unpublished Data

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): The National Institute for Health and Care Excellence (NICE) commissioned an independent academic centre to perform an assessment of the manufacturer's submission on the technology considered in this appraisal and prepare an Evidence Review Group (ERG) report. The ERG report for this technology appraisal was prepared by the BMJ Technology Assessment Group (BMJ-TAG) (see the "Availability of Companion Documents" field).

Clinical Effectiveness

Description and Discussion of Appropriateness of Manufacturer's Search Strategy

The manufacturer provided the search terms and strategies implemented in the manufacturer's review of the literature as an Appendix. The manufacturer searched the literature to identify relevant randomised controlled trials (RCTs) and non-RCTs assessing the clinical effectiveness of pixantrone monotherapy and relevant comparators in the treatment of patients with multiply relapsed or refractory non-Hodgkin's lymphoma (NHL). In addition to the comparators available as treatment of physician's choice (TPC) in the PIX301 trial, the manufacturer also searched the literature for data on bendamustine, bortezomib, and lenalidomide.

The manufacturer listed the specific databases searched, the time period covered by the searches, and the date the searches were run. For the review of the literature on the clinical effectiveness of the listed interventions, the manufacturer supplemented the search by reviewing the websites of various relevant organisations, including American Society of Clinical Oncology, European Association for Cancer Research, and European Society for Medical Oncology. The manufacturer also searched ClinicalTrials.gov and company websites of manufacturers of interventions identified as being of interest. Reference lists of identified studies and systematic reviews were hand searched for additional relevant studies.

Within the searches, the manufacturer used multiple search terms for NHL and for pixantrone. However, search terms of other listed interventions were limited to the common drug name. The manufacturer restricted the search for studies on the clinical effectiveness to citations published from January 1995; restriction applied to all databases. The manufacturer carried out the electronic literature search of MEDLINE and EMBASE in December 2011, and of CENTRAL in November 2011. The Evidence Review Group (ERG) notes that the span of the manufacturer's search did not capture the full publication of PIX301, which was published in May 2012. A published systematic review of interventions in the treatment of relapsed diffuse large B-cell lymphoma (DLBCL; search date January 2010) reported no RCTs evaluating monotherapy treatments in this population. It should be noted that inclusion criteria for this review were published systematic reviews and RCTs in any language, including unblinded studies, and containing more than 50 individuals per treatment arm of whom more than 80% were followed up and a minimum follow-up period of 2 years. The ERG considers that the manufacturer's restriction of the span of the search is unlikely to have resulted in publications relevant to the decision problem being missed.

Due to time constraints, the ERG was unable to replicate the manufacturer's search and appraisal of identified abstracts for all databases. However, the ERG carried out a separate search of MEDLINE, EMBASE and the Cochrane Library in January 2013 to update the manufacturer's search. The ERG used the manufacturer's search terms, and considers that all studies relevant to the clinical effectiveness of pixantrone monotherapy in the treatment of multiply relapsed or refractory aggressive NHL are likely to have been identified. In addition, the ERG identified no systematic review evaluating monotherapy treatment in multiply relapsed or refractory aggressive NHL. In summary, the ERG considers that the manufacturer searched the key electronic databases, including MEDLINE, EMBASE, and the Cochrane Library, and that the search strategies used were appropriate for the decision problem that is the focus of this Single Technology Appraisal (STA).

Inclusion Criteria Used in Study Selection

Inclusion criteria applied by the manufacturer for their systematic review are summarised in Table 4 of the ERG report (see the "Availability of Companion Documents" field). Although the manufacturer did not specify exclusion criteria for the review, based on the manufacturer's description of the systematic review process, the ERG considers the exclusion criteria to be implicit (e.g., studies published in a non-English language were

excluded).

The ERG considers the manufacturer's inclusion criteria, and accompanying rationales, to be mostly appropriate. With reference to the exclusion of non-English language studies, given the anticipated paucity of studies evaluating interventions in the population of interest, the ERG considers that studies in any language and meeting the other inclusion criteria would be of relevance to the decision problem. However, given the acknowledged lack of evidence in the specified population, the ERG considers it is unlikely that key studies have been omitted from the manufacturer's submission.

Included and Excluded Studies in Review of Clinical Effectiveness

The manufacturer provided a single flow diagram that encompassed the review of the literature for evidence on clinical effectiveness, health-related quality of life (HRQoL), economics, and resources. The diagram included a summary of the results of each individual search. The flow diagram provided by the manufacturer indicates that six publications were identified by the review of the clinical effectiveness literature. The manufacturer's search of the literature was carried out prior to publication of results of the PIX301 trial in a peer-reviewed journal. The manufacturer identified four conference abstracts presenting results from the PIX301 trial. As conference abstracts, details of methodological processes and results are minimal. Of the four abstracts identified by the manufacturer, two abstracts focused on the PIX301 trial, which the Evidence Review Group (ERG) considers relevant to the decision problem. The remaining two conference abstracts provided an overview of clinical trials of pixantrone, including the PIX301 study, in addition to trials in indolent non-Hodgkin's lymphoma (NHL) and evaluating pixantrone as a first-line treatment. The ERG does not consider the two abstracts providing an overview of pixantrone to be relevant to the decision problem as presented data are also reported elsewhere. Of the two remaining publications, one is the manufacturer's registration of the methodology of the PIX301 trial (first published in 2004 and updated in 2011), and the second is a summary of the two conference abstracts presenting data from the PIX301 trial.

No relevant non-RCTs were identified by the manufacturer.

Cost-effectiveness

The manufacturer carried out a systematic review of the literature to identify full economic evaluations and/or resource use or cost studies in patients who had relapsed or refractory aggressive NHL after at least two prior therapies. The following databases were searched: MEDLINE; EMBASE; MEDLINE (R) In-Process, EconLIT and NHS Economic Evaluation Database (NHS EED). The searches were carried out between 16th December 2011 and 2nd February 2012 and were restricted by date (from year 2000) and language (English language). No country restrictions were applied; however, the manufacturer stated that UK-based studies were preferred. The manufacturer's rationale for applying publication date and language limits was to "select those studies relevant to the decision problem and the current clinical practice in the UK".

In addition, the websites of manufacturers of treatments currently used in multiply relapsed or refractory aggressive non-Hodgkin's lymphoma (NHL) were also searched (between 2nd and 20th February 2012), as were the websites of the following organisations:

- American Society of Clinical Oncology (ASCO)
- European Association for Cancer Research (EACR)
- European Society for Medical Oncology (ESMO)
- National Cancer Research Institute (NCRI)
- National Comprehensive Cancer Network (NCCN)
- Health Technology Assessments via the Cochrane Library (HTAs).

After consideration of 4,345 records retrieved by the review, no relevant economic evaluations or costing studies were identified by the manufacturer. The Evidence Review Group (ERG) considers that the search terms (see Appendix 10 of the ERG report [see the "Availability of Companion Documents" field]) and inclusion/exclusion criteria used in the review were reasonable, and, therefore, the ERG considers it unlikely that relevant publications were excluded.

Number of Source Documents

Clinical Effectiveness

1 randomised trial

Cost-effectiveness

The manufacturer submitted a *de novo* economic evaluation.

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): The National Institute for Health and Care Excellence (NICE) commissioned an independent academic centre to perform an assessment of the manufacturer's submission on the technology considered in this appraisal and prepare an Evidence Review Group (ERG) report. The ERG report for this technology appraisal was prepared by the BMJ Technology Assessment Group (BMJ-TAG) (see the "Availability of Companion Documents" field).

Clinical Effectiveness

Quality Assessment

The manufacturer assessed the PIX301 trial against criteria adapted from guidance for undertaking reviews in health care issued by the Centre for Reviews and Dissemination, as provided in NICE's template for manufacturer/sponsor submission of evidence to the Single Technology Appraisal (STA) process. The ERG independently validated PIX301 and agrees with the manufacturer's assessment; the manufacturer's assessment, together with accompanying minor comments from the ERG, is presented in Appendix 3 of the ERG report (see the "Availability of Companion Documents" field). Evidence on the clinical effectiveness of pixantrone is appropriately derived from the PIX301 trial. The ERG's critique of the design and conduct of PIX301 is discussed in more detail below and in section 4.2 of the ERG report (see the "Availability of Companion Documents" field).

Summary and Critique of Submitted Clinical Effectiveness Evidence

The primary objective of the PIX301 trial was to compare the clinical effectiveness of pixantrone monotherapy against treatment of physician's choice (TPC) in terms of complete response (CR) and unconfirmed CR (CRu) at the end of treatment in the intention-to-treat (ITT) population. Included patients had multiply relapsed or refractory aggressive non-Hodgkin's lymphoma (NHL) (patients previously treated with ≥2 chemotherapy regimens). Evaluation of CR and CRu was based on the International Workshop to Standardize Response Criteria for NHL and was determined by a blinded Independent Assessment Panel (IAP). Secondary objectives were to evaluate comparative clinical effectiveness of pixantrone on overall survival (OS), CR/CRu rate in histologically confirmed patients, overall response rate (ORR) lasting at least 4 months, and progression-free survival (PFS).

See section 4.2 of the ERG report (see the "Availability of Companion Documents" field) for additional description and critique of the PIX01 trial.

Cost-effectiveness

Summary and Critique of Manufacturer's Submitted Economic Evaluation by the ERG

The manufacturer developed a *de novo* economic model which considered pixantrone versus TPC in a population of patients with multiply relapsed or refractory aggressive B-cell NHL, who had received at least two prior therapies. The model was constructed in Microsoft© EXCEL over a life-time (23 year) time horizon and captured costs and quality-adjusted life-years (QALYs) associated with an average patient treated with either pixantrone or TPC. Individual patient level data from the PIX301 trial were used to populate the model. In addition, as part of the manufacturer's clarification response, a corrected list price for pixantrone was provided. Unless otherwise stated all results presented within this report are based on the corrected list price for pixantrone.

Overall, the ERG considers the manufacturer's model to be well constructed and largely transparent. However, the ERG considers it important to note that the manufacturer's base case economic evaluation included data from patients whose disease had not been histologically confirmed as

aggressive. The ERG considers this to be an important limitation of the manufacturer's base case analysis. Furthermore, the ERG notes that the results of the subgroup analysis (requested at clarification) in patients with B-cell NHL that has been histologically confirmed as aggressive is more informative to the decision problem that is the focus of this single technology assessment.

See Section 5.2 of the ERG report (see the "Availability of Companion Documents" field) for additional description and critique of the economic model.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Considerations

Technology appraisal recommendations are based on a review of clinical and economic evidence.

Technology Appraisal Process

The National Institute for Health and Care Excellence (NICE) invites 'consultee' and 'commentator' organisations to take part in the appraisal process. Consultee organisations include national groups representing patients and carers, the bodies representing health professionals, and the manufacturers of the technology under review. Consultees are invited to submit evidence during the appraisal and to comment on the appraisal documents.

Commentator organisations include manufacturers of the products with which the technology is being compared, the National Health Service (NHS) Quality Improvement Scotland and research groups working in the area. They can comment on the evidence and other documents but are not asked to submit evidence themselves.

NICE then commissions an independent academic centre to review published evidence on the technology and prepare an 'assessment report'. Consultees and commentators are invited to comment on the report. The assessment report and the comments on it are then drawn together in a document called the evaluation report.

An independent Appraisal Committee then considers the evaluation report. It holds a meeting where it hears direct, spoken evidence from nominated clinical experts, patients and carers. The Committee uses all the evidence to make its first recommendations, in a document called the 'appraisal consultation document' (ACD). NICE sends all the consultees and commentators a copy of this document and posts it on the NICE Web site. Further comments are invited from everyone taking part.

When the Committee meets again it considers any comments submitted on the ACD; then it prepares its final recommendations in a document called the 'final appraisal determination' (FAD). This is submitted to NICE for approval.

Consultees have a chance to appeal against the final recommendations in the FAD. If there are no appeals, the final recommendations become the basis of the guidance that NICE issues.

Who Is on the Appraisal Committee?

NICE technology appraisal recommendations are prepared by an independent committee. This includes health professionals working in the NHS and people who are familiar with the issues affecting patients and carers. Although the Appraisal Committee seeks the views of organisations representing health professionals, patients, carers, manufacturers and government, its advice is independent of any vested interests.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

Summary of Appraisal Committee's Key Conclusions

Availability and Nature of Evidence

The Committee concluded that the outlined structure of the models adhered to the National Institute for Health and Care Excellence (NICE) reference case for economic analysis and was acceptable for assessing the cost-effectiveness of pixantrone.

Uncertainties Around and Plausibility of Assumptions and Inputs in the Economic Model

The Committee was persuaded that the manufacturer's mean probabilistic incremental cost-effectiveness ratio (ICER) of £22,000 per quality-adjusted life year (QALY) gained could overestimate the uncertainty associated with the survival modelling and that the true value of the ICER might be lower. It further concluded that there was an increase in response rates, progression-free survival, and overall survival for pixantrone compared with treatment of physician's choice. However, these results were not statistically significant.

Incorporation of Health-Related Quality-of-Life Benefits and Utility Values. Have Any Potential Significant and Substantial Health-Related Benefits Been Identified That Were Not Included in the Economic Model, and How Have They Been Considered?

The Committee was aware that the utility value used by the manufacturer in its revised model incorporating the patient access scheme for the pre-progression health state was similar to that expected for an older population in the UK. The Committee considered that the quality of life of patients receiving third- or fourth-line treatment for aggressive non-Hodgkin's B-cell lymphoma could be lower than this. The Committee concluded that, although there was some uncertainty as to the true utility value, the utility values used in the manufacturer's revised model that was part of the patient access scheme submission were appropriate for use in the Committee's decision-making. The Committee observed that there were no additional gains in health-related quality of life over those already included in the QALY calculations and concluded that there were no additional QALYs that had not been incorporated into the economic model and the cost-effectiveness estimates.

Are There Specific Groups of People for Whom the Technology Is Particularly Cost Effective?

The patient access scheme applies to patients with histologically confirmed aggressive non-Hodgkin's B-cell lymphoma who have previously received rituximab and are receiving pixantrone as a third- or fourth-line treatment.

What Are the Key Drivers of Cost-effectiveness?

The Committee concluded that there was limited and non-robust evidence to show pixantrone was more clinically effective than treatments currently used in clinical practice for treating multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma. It further concluded that there was an increase in response rates, progression-free survival, and overall survival for pixantrone compared with treatment of physician's choice. However, these results were not statistically significant.

The patient access scheme reduced the mean probabilistic ICER to £22,000 per QALY gained. The Committee was persuaded that this ICER could overestimate the uncertainty associated with the survival modelling and that the true value of the ICER might be lower.

Most Likely Cost-effectiveness Estimate (Given as an ICER)

The Committee noted that, for the subgroup of patients with aggressive B-cell lymphoma confirmed by central independent pathological review for third- or fourth-line treatment and who had previously received rituximab, the manufacturer's deterministic ICER incorporating the patient access scheme was £18,500 per QALY gained and the manufacturer's mean probabilistic ICER was £22,000 per QALY gained. The Committee noted that the exploratory analysis showed a high level of uncertainty around the ICER. However, the Committee was persuaded that this analysis could overestimate the uncertainty associated with the survival modelling and that the true value of the ICER might be lower. The Committee concluded that because the probabilistic ICER was likely to be less than £22,000 per QALY gained pixantrone was recommended as a cost-effective use of National Health Service (NHS) resources.

See Sections 3 and 4 in the original guideline document for additional information.

Method of Guideline Validation

External Peer Review

Description of Method of Guideline Validation

Consultee organizations from the following groups were invited to comment on the draft scope, Assessment Report and the Appraisal Consultation Document (ACD) and were provided with the opportunity to appeal against the Final Appraisal Determination.

- Manufacturer/sponsors
- Professional/specialist and patient/carer groups
- Commentator organisations (without the right of appeal)

In addition, individuals selected from clinical expert and patient advocate nominations from the professional/specialist and patient/carer groups were also invited to comment on the ACD.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

The Appraisal Committee considered clinical and cost-effectiveness evidence submitted by the manufacturer of pixantrone and a review of this submission by the Evidence Review Group (ERG). The main clinical effectiveness evidence came from a single randomised controlled trial. For cost-effectiveness, the Appraisal Committee considered an economic model submitted by the manufacturer.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate pixantrone monotherapy for treating multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma

Potential Harms

The summary of product characteristics states that the most common toxicity with pixantrone is bone marrow suppression (particularly the neutrophil lineage) and that other toxicities such as nausea, vomiting and diarrhoea are generally infrequent, mild, reversible, manageable and as expected in patients treated with cytotoxic agents. Although the occurrence of cardiac toxicity indicated by congestive heart failure appears to be lower than that expected with related drugs like anthracyclines, the summary of product characteristics recommends monitoring left ventricular ejection fraction.

For full details of adverse reactions, see the summary of product characteristics.

Contraindications

Contraindications

For full details of contraindications, see the summary of product characteristics.

Qualifying Statements

Qualifying Statements

- This guidance represents the views of the National Institute for Health and Care Excellence (NICE) and was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.
- Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded

that it is their responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

Implementation of the Guideline

Description of Implementation Strategy

- Section 7(6) of the National Institute for Health and Care Excellence (NICE) (Constitution and Functions) and the Health and Social Care Information Centre (Functions) Regulations 2013 requires clinical commissioning groups, National Health Service (NHS) England and, with respect to their public health functions, local authorities to comply with the recommendations in this appraisal within 3 months of its date of publication.
- When NICE recommends a treatment 'as an option', the NHS must make sure it is available within the period set out in the paragraph above. This means that, if a patient has multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma and the doctor responsible for their care thinks that pixantrone is the right treatment, it should be available for use, in line with NICE's recommendations.
- The Department of Health and the manufacturer have agreed that pixantrone will be available to the NHS with a patient access scheme which makes pixantrone available with a discount. The size of the discount is commercial in confidence. It is the responsibility of the manufacturer to communicate details of the discount to the relevant NHS organisations.
- NICE has developed tools to help organisations put this guidance into practice. These are available on the NICE Web site (see also the "Availability of Companion Documents" field).

Implementation Tools

Mobile Device Resources

Patient Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Bibliographic Source(s)

National Institute for Health and Care Excellence (NICE). Pixantrone monotherapy for treating multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma. London (UK): National Institute for Health and Care Excellence (NICE); 2014 Feb. 57 p. (Technology appraisal guidance; no. 306).

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2014 Feb

Guideline Developer(s)

National Institute for Health and Care Excellence (NICE) - National Government Agency [Non-U.S.]

Source(s) of Funding

National Institute for Health and Care Excellence (NICE)

Guideline Committee

Appraisal Committee

Composition of Group That Authored the Guideline

Committee Members: Professor Andrew Stevens (*Chair of Appraisal Committee C*), Professor of Public Health, University of Birmingham; Professor Eugene Milne (*Vice Chair of Appraisal Committee C*), Deputy Regional Director of Public Health, North East Strategic Health Authority, Newcastle upon Tyne; Professor Kathryn Abel, Director of Centre for Women's Mental Health, University of Manchester; Dr David Black, Medical Director, NHS South Yorkshire and Bassetlaw; Dr Daniele Bryden, Consultant in Intensive Care Medicine and Anaesthesia, Sheffield Teaching Hospitals NHS Trust; Dr Andrew Burnett, Formerly – Director for Health Improvement and Medical Director, NHS Barnet, London; David Chandler, Lay Member; Gail Coster, Advanced Practice Sonographer, Mid Yorkshire Hospitals, NHS Trust; Professor Peter Crome, Honorary Professor, Dept of Primary Care and Population Health, University College London; Dr Maria Dyban, General Practitioner, Kings Road Surgery, Glasgow; Professor Rachel A Elliott, Lord Trent Professor of Medicines and Health, University of Nottingham; Dr Greg Fell, Consultant in Public Health, Bradford and Airedale Primary Care Trust; Dr Wasim Hanif, Consultant Physician and Honorary Senior Lecturer, University Hospital Birmingham; Dr Alan Haycox, Reader in Health Economics, University of Liverpool Management School; Professor Cathy Jackson, Professor of Primary Care Medicine, University of St Andrews; Dr Peter Jackson, Clinical Pharmacologist, University of Sheffield; Dr Janice Kohler, Senior Lecturer and Consultant in Paediatric Oncology, Southampton University Hospital Trust; Emily Lam, Lay Member; Dr Allyson Lipp, Principal Lecturer, University of South Wales; Dr Claire McKenna, Research Fellow in Health Economics, University of York; Professor Gary McVeigh, Professor of Cardiovascular Medicine, Queens University Belfast and Consultant Physician, Belfast City Hospital; Dr Grant Maclaine, Formerly Director, Health Economics and Outcomes Research, BD, Oxford; Dr Andrea Manca, Health Economist and Senior Research Fellow, University of York; Henry Marsh, Consultant Neurosurgeon, St George's Hospital, London; Dr Paul Miller, Director, Payer Evidence, AstraZeneca UK Ltd; Professor Stephen O'Brien, Professor of Haematology, Newcastle University; Dr Anna O'Neill, Deputy Head of Nursing and Healthcare School/Senior Clinical University Teacher, University of Glasgow; Alan Rigby, Academic Reader, University of Hull; Dr Peter Selby, Consultant Physician, Central Manchester University Hospitals, NHS Foundation Trust; Professor Matt Stevenson, Technical Director, School of Health and Related Research, University of Sheffield; Dr Tim Stokes, Senior Clinical Lecturer, University of Birmingham; Dr Paul Tappenden, Reader in Health Economic Modelling, School of Health and Related Research, University of Sheffield; Dr Judith Wardle, Lay Member

Financial Disclosures/Conflicts of Interest

Committee members are asked to declare any interests in the technology to be appraised. If it is considered there is a conflict of interest, the member is excluded from participating further in that appraisal.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Electronic copies: Available from the National Institute for Health and Care Excellence (NICE) Web site .

Availability of Companion Documents

The following are available:

- Pixantrone monotherapy for treating multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma. Costing statement. London (UK): National Institute for Health and Care Excellence (NICE); 2014 Feb. (Technology appraisal guidance; no. 306). Electronic copies: Available from the National Institute for Health and Care Excellence (NICE) Web site .
- Edwards SJ, Barton S, Nherera L, Trevor N, Krause T, Thurgar EJ. Pixantrone monotherapy for the treatment of relapsed or refractory aggressive non-Hodgkin's lymphoma: a single technology Appraisal. London (UK): BMJ-TAG; 2013. 175 p. Electronic copies: Available in Portable Document Format (PDF) from the NICE Web site .

Patient Resources

The following is available:

- Pixantrone for multiply relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma. Information for the public. London (UK): National Institute for Health and Care Excellence (NICE); 2014 Feb. (Technology appraisal guidance; no. 306). Electronic copies: Available from the National Institute for Health and Care Excellence (NICE) Web site . Also available for download as a Kindle or EPUB ebook from the NICE Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on May 21, 2014.

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